

CURRENT BIASING CIRCUIT WITH TEMPERATURE COMPENSATION AND RELATED METHODS OF COMPENSATING OUTPUT CURRENT

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ABSTRACT OF THE DISCLOSURE

This disclosure provides, in one aspect, a current signal generating circuit for generating a current source for use by on- or off-chip components. In one embodiment, the circuit comprises an on-chip output current circuit configured to generate an output current and a reference current based on an input voltage. In this embodiment, the
10 output current is substantially proportional to the reference current. The circuit also includes an on-chip resistive element coupled to the output current circuit and having a resistance configured to regulate the output current using the reference current. In such an embodiment, the resistance varies according to a temperature of the resistive element. In addition, the circuit includes an on-chip temperature compensation circuit
15 coupled to the output current circuit and the on-chip resistive element, and configured to compensate for the varying resistance by adjusting the reference current in accordance with the varying resistance of the resistive element. Related methods of compensating for a current source used by on- or off-chip components are also disclosed.